

NOTIFICATION APPLIANCE CIRCUIT
POWER REQUIREMENTS – 1ST FLOOR

DESCRIPTION	CURRENT PER APPLIANCE	# OF APPLIANCES		
		CIRCUIT AV1	CIRCUIT AV2	CIRCUIT AV3
WHEELLOCK HORN/STROBE 15 cd	0.066	3	2	0
WHEELLOCK HORN/STROBE 30 cd	0.101	1	1	3
WHEELLOCK HORN/STROBE 75 cd	0.177	2	1	0
WHEELLOCK HORN/STROBE 110 cd	0.232	1	2	3
WHEELLOCK STROBE 15 cd	0.060	0	1	0
TOTAL CIRCUIT CURRENT		0.885	0.934	0.999

NOTES:

THE FOLLOWING NOTIFICATION APPLIANCES AND THEIR POWER DEMANDS WERE USED IN THE DESIGN:

- WHEELLOCK INC. HS4-24MCW; 150D WALL MOUNTED HORN/STROBE; 0.066 AMP MAX UL POWER DEMAND; RATED 16 TO 33 AMP
- WHEELLOCK INC. SERIES HS4-24MCW; 300D WALL MOUNTED HORN/STROBE; 0.101 AMP MAX UL POWER DEMAND; RATED 16 TO 33 AMP
- WHEELLOCK INC. SERIES HS4-24MCW; 750D WALL MOUNTED HORN/STROBE; 0.177 AMP MAX UL POWER DEMAND; RATED 16 TO 33 AMP
- WHEELLOCK INC. SERIES HS4-24MCW; 1100D WALL MOUNTED HORN/STROBE; 0.232 AMP MAX UL POWER DEMAND; RATED 16 TO 33 AMP
- WHEELLOCK INC. SERIES HS4-24MCW; 150D WALL MOUNTED STROBE; 0.060 AMP MAX UL POWER DEMAND; RATED 16 TO 33 AMP

VOLTAGE DROP CALCULATIONS

{} (D) (21.6)/CM
WHERE:
I = CIRCUIT POWER LOAD
D = CONDUCTOR ONE WAY DISTANCE
21.6 = CONSTANT
CM = CROSS SECTION AREA OF WIRE (4110 FOR AWG#14)

NAC AV1
[(0.885 AMP) (500 FT) (21.64)/4110] VOLTAGE DROP: 2.330 VOLTS AVAILABLE VOLTAGE: 21.670 VOLTS

NAC AV2
[(0.934 AMP) (500 FT) (21.64)/4110] VOLTAGE DROP: 2.459 VOLTS AVAILABLE VOLTAGE: 21.541 VOLTS

NAC AV3
[(0.999 AMP) (500 FT) (21.64)/4110] VOLTAGE DROP: 2.626 VOLTS AVAILABLE VOLTAGE: 21.374 VOLTS

THE CIRCUITS AVAILABLE VOLTAGE IS ABOVE THE MINIMUM LISTED VOLTAGE FOR THE APPLIANCES.

RACEWAY NOTES:

- UNLESS NOTED OTHERWISE, THE RACEWAYS SHOWN ON THIS SHEET CONTAIN THE NECESSARY CSM CIRCUITS FOR THE ICS NODE, CIRCUITS L1, L4, AV1, AV2 & AV3.
- THE ICS NODE CSM CIRCUITS AND CIRCUITS L4 & AV1 RETURN TO THE FACU VIA THE CONDUIT SHOWN IN THE STAGING AREA AND DO NOT CONTINUE THROUGHOUT THE BUILDING.

ICS NODE LEGEND

- FIRE CALL BOX (E)
- HALON MANUAL RELEASE (E)
- HALON ABORT (E)
- HEAT DETECTOR (E)
- SMOKE DETECTOR (E) TO BE REPLACED WITH NEW DETECTOR
- PREACTION FIRE SPRINKLER WATERFLOW (E)
- PREACTION FIRE SPRINKLER VALVE SUPERVISION (E)
- HALON 1ST ALARM NOTIFICATION APPLIANCE (E)
- HALON 2ND ALARM NOTIFICATION APPLIANCE (E)
- HALON RELEASE NOTIFICATION (E)
- SOLENOID – PREACTION SPRINKLERS (E)
- FENWAL 2210 HALON RELEASING PANEL (E)

SPECIAL NOTE REGARDING ICS HALON SYSTEM:

- THE EXISTING FENWAL 2210 HALON RELEASING PANEL WILL REMAIN IN SERVICE. A TRI-R MODULE (ADDRESS L4-13) SHALL BE CONNECTED TO TERMINALS 26 AND 29 TO CAUSE FOR OPERATION OF THE HALON SYSTEM.
- THE EXISTING SMOKE DETECTORS SHALL BE REPLACED WITH NEW SMOKE DETECTORS COMPATIBLE WITH THE NEW MXL CONTROL UNIT.

ICS NODE
FIRE ALARM SYSTEM
FUNCTION CHART

SYSTEM EVENT	RESPONSE															
	ANNUNCIATE EVENT AT FACU	FIRE SIGNAL TO LBNL RECEIVER	SUPERVISORY SIGNAL TO LBNL	OPERATE NOTIFICATION APPLIANCE	EXIT SIGN LIGHT	OPERATE PRE ACTION SYSTEM VALVE	OPERATE HALON HORN	OPERATE STROBE	1ST ALARM APPLIANCE	2ND ALARM APPLIANCE	HALON LIGHT	AHU SHUT DOWN	CLOSE HALON DAMPERS	DISCHARGE HALON (20 SEC DELAY)	SHUT DOWN POWER	VENTILATION FAN
FIRE CALL BOX	•	•	•	•	•											
HEAT DETECTOR	•	•	•	•	•											
WATERFLOW SWITCH	•	•	•	•	•											
1ST SMOKE DETECTOR	•	•	•	•	•		•		•				•	•	•	
2ND SMOKE DETECTOR	•	•	•	•	•		•		•	•			•	•	•	
HALON MANUAL RELEASE	•	•	•	•	•		•	•	•			•	•	•	•	•
HALON ABORT	•		•													•
VALVE SUPERVISORY	•		•													

PROVIDE NEW CONDUIT AND CIRCUITS TO THE ICS NODE. PROVIDE NEW CIRCUITS TO EXISTING DEVICES AND APPLIANCES UTILIZING THE EXISTING CONDUIT WITHIN THE ICS NODE.

CONDUITS FOR 2ND & 3RD FLOORS (2 FOR EACH FLOOR, TOTAL OF 4)

LOCATED AT BACKFLOW ASSEMBLY

1 FIRST FLOOR FIRE ALARM
FA2.1 SCALE: 1/8"=1'-0"

SHEET NOTE:

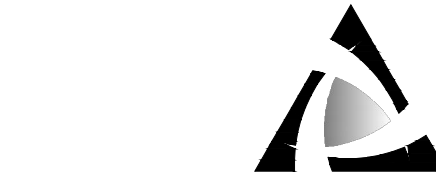
- THE PREACTION FIRE SPRINKLER ASSEMBLY SERVING THE EXISTING ICS NODE RELOCATED TO THIS LOCATION. CONNECT THE EXISTING VALVE SUPERVISORY SWITCH, PRESSURE OPERATED FLOW SWITCH, SOLENOID, APPLIANCES, ETC. TO THE NEW SIEMENS MXL CONTROL UNIT.

0 8 FT 16 FT 24 FT
SCALE: 1/8"=1'-0" UNO

WRNSSTUDIO

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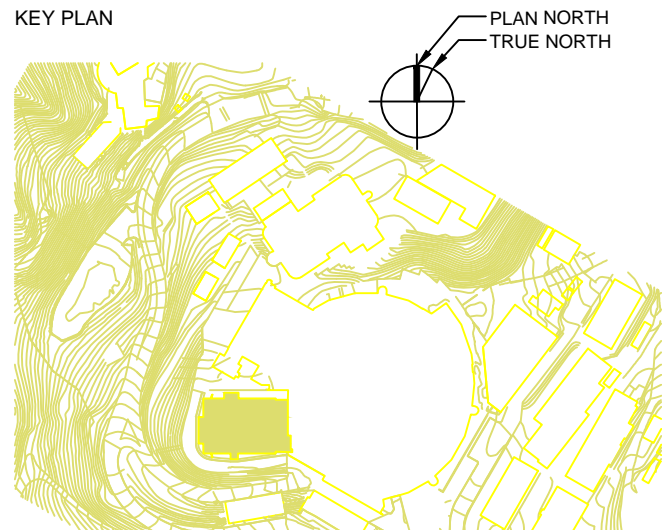
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and Consultants

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NO.	ISSUES/REVISIONS	DATE
	FINAL AS-BUILTS RECORD DRAWINGS	02-18-11

RECORD DRAWING NOTE:
SEE ALSO SIEMENS
INDUSTRY, INC. "AS BUILT"
PLANS (JOB 440P-065295) FOR
ADDITIONAL INFORMATION
AND CONTRACTOR DETAILS

LBNL ADVANCED
LIGHT SOURCE USER
SUPPORT BUILDING 15
BERKELEY, CA



PROJECT NO.: 07004.00 DRAWN BY: DWH
DATE: 2/18/2011 CHECKED BY: BBT
SCALE: 1/8"=1'-0"

SHEET TITLE:

FIRST FLOOR PLAN
FIRE ALARM

5N15E042

SHEET NO:

FN1421

FA-2.1